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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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POB 677
NORTHBROOK IL 60065

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EXAMINER

TUNG, K

ART UNIT

PAPER NUMBER

2776

DATE MAILED:

07/29/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

047,320

Applicant(s)

Li

Examiner

K. Tung

Group Art Unit

2776

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 3/24/98
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-23 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-23 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s) _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claim 1 is rejected under 35 U.S.C. § 102(e) as being anticipated by Perrin (5,872,577).

As per claim 1, Perrin teaches a video graphics and audio processing circuit (Fig. 1) comprising a graphics processing circuit and an audio processing circuit (M1 - M3, col. 1, line 8); a local bus (the bus between ARB and DRAM) operably coupled to transceiver data to and from the graphics processing circuit and the audio processing circuit; and a bus arbitrator (ARB) operably coupled to the local bus, the graphics processing circuit, and the audio processing circuit, wherein the bus arbitrator interprets incoming data and provides the incoming data to the audio graphics processing circuit or to the video graphics processing circuit, and wherein the bus arbitrator arbitrating outputting data on the bus from the graphics processing circuit and the audio processing circuit. Therefore, at least claim 1 is anticipated by Perrin.

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Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perrin (5,872,577) in view of Neal et al (5,761,462).

The teachings of Perrin are given in previous paragraph of this Office action. However, Perrin fails to explicitly teach the bus arbitrator comprises an address decoder. This is what Neal et al teaches (51 and col. 4, line 66-67). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to combine the teachings of Neal et al into the system of Perrin in order to more efficiently distribute the income information and thus to speed up the processing operation and performance. Therefore, at least claim 2 would have been obvious.

As per claim 3, Neal et al teaches the address decoder comprises control circuitry (51) that generates an output data control signal based on the address and a data command signal.

As per claim 4, Perrin teaches the arbitrator further comprises an output data switch (inherent by the ARB).

5. Claims 2-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perrin (5,872,577) in view of Herbert (5,752,010).

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The teachings of Perrin are given in previous paragraph of this Office action. However, Perrin fails to explicitly teach arbitrating access to the local bus based on the at least one address which determines whether the at least one address identifies at least one of the audio and graphics processing circuits. This is what Herbert teaches (address range detectors 40 and 42). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to combine the teachings of Herbert into the system of Perrin in order to more efficiently transfer the information and thus to speed up the processing operation and performance. Therefore, at least claim 6 would have been obvious.

As per claim 2, the combined system fails to explicitly teach an address decoder. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to implement the teachings of Herbert and Perrin because the address decoder of the present invention merely to route the received data to one of the audio and graphics processing circuits which is equivalent to the address range detector of Herbert since the address range detector determines which type data it is received based on the address range and forward to the appropriate circuit for processing. Therefore, at least claim 2 would have been obvious.

As per claim 3, Herbert teaches the address decoder comprises control circuitry (36) that generates an output data control signal based on the address and a data command signal.

As per claim 4, Perrin teaches the arbitrator further comprises an output data switch (inherent by the ARB).

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As per claim 5, Herbert teaches an audio buffer and an graphics buffer (50 and 58. It is noted that the video information includes audio and moving picture information, col. 3, lines 17-19).

As per claim 7, Herbert teaches receiving an associated command for each of the at least one address (data control 36 also receives command or control signal from control bus 10).

As per claims 8-11, Herbert teaches enabling audio/graphics processing circuits to receive incoming data via the local bus when at least one address identifies the audio/graphics processing circuits (video and graphics processors) and when the associated command is for inputting/outputting data (Figs. 1 and 3).

As per claim 12, Herbert teaches a plurality of addresses (one for video another for graphics).

As per claim 13, the combined system fails to explicitly teach intermixing the audio processing circuit's access to local bus with the graphics processing circuit's access to the local bus based on the plurality of addresses and the associated command. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to implement the teachings of Perrin and Herbert as claimed because to intermix the audio and graphics processing circuits were extremely well used in the multimedia art at the time the present invention was made in order to obtain a highly desirable computer graphics system. Therefore, at least claim 13 would have been obvious.

As per claims 14-16, Perrin teaches a processing unit (Perrin, Fig. 1, exclude the DRAM) and a memory (Perrin, inherent and Herbert, the DRAM in fig. 1) for storing programming instructions (ROM part of the DRAM or system memory) that cause the processing unit to determine whether

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the associated data command is for inputting or outputting data and to intermix outputting audio and graphics data (Fig. 1).

Claims 17-23 are similar in scope to claims 14-16, and thus are rejected under similar rationale.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chau (5,870,087), Diaz et al (5,812,789), Gulick et al (5,732,224), Stone, III et al (5,630,174).

Responses

7. Responses to this action should be mailed to:
Commissioner of Patents and Trademarks
Washington, D.C. 20231.

If applicant desires to fax a response, (703) **308-9051(52)** may be used for formal communications or (703) **308-5403** for informal or draft communications.

Please label "PROPOSED" or "DRAFT" for informal facsimile communications. For after final responses, please label "AFTER FINAL" or "EXPEDITED PROCEDURE" on the document.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Inquires


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kee M. Tung** whose telephone number is (703) **305-9660**. The examiner can normally be reached on **Monday - Thursday** from **7:30 am to 5:00 pm**. The examiner can also be reached on alternate **Friday**.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Michael Razavi**, can be reached on (703) **305-4713**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) **305-3800**.

July 27, 1999


Kee M. Tung
Primary Examiner
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